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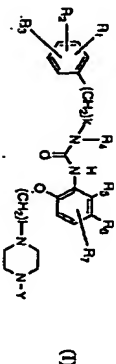
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(56) 【発明】の名称）ラテックス凝集体

(57) 【要約】

【課題】 酢素ACATに対してより強力な阻害作用を有し、血中コレステロール低下作用およびクロロフォーミル化と抑触作用を兼ね得る化合物を提供すること。

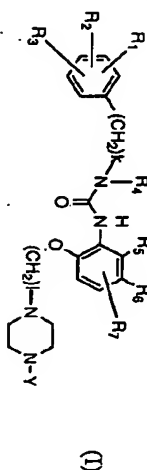
【化1】



$R_1, R_1, R_1, R_1: H, OH, C_1 \sim C_2$  アルキル基,  
 $C_1 \sim C_2$  アルコキシ基, 複素四元基等  
 $R_1, R_1: H, C_1 \sim C_2$  アルキル基等  
 $R_1, R_1, R_1$ : 水素原子,  $C_1 \sim C_2$  アルコキシ基  
 等  
 $Y: C_1 \sim C_2$  アルキル基, 複素四元基,  $C_1 \sim C_{11}$ ,  
 アリール基等  
 $k: 0 \sim 3$  の整数,  $l: 2 \sim 4$  の整数

【特許請求の範囲】

【請求項 1】 下記一般式（I）



【化1】

[illegible]

【請求項3】 R、

[illegible]

40 す。)を表してもよく、 $R_1$  が水素原子を表し、 $R_2$

て、水素原子、ヒドロキシ基、 $C_1 \sim C_3$  のアルキル基、 $C_1 \sim C_3$  のアルコキシ基、 $Het-(CH_2)_n-X$  ( $Het$  は総原子数 5~6 の複素原子基を表し、 $n$  は 0~3 の整数を表し、 $X$  は酸素原子または硫黄原子を表す。)、 $C_1 \sim C_3$  のアルキルオキまたは硫黄原子基、または総原子数 5~6 の複素原子基 (複素原子基は、アルキル基、フェニル基、ヒリジメチル基、ヒドロキシメチル基、ベンジロキシメチル基および総原子数 5~6 の複素原子基からなる群から選ばれる置換基により置換されていてもよい。) を表すが、 $R_1$  と  $R_2$  が一緒になって

























酸、安息香酸、トルエンシルホン酸、メタンスルホン酸等の有機酸等と塩を形成することもできる。さらに本発明化合物またはその塩は、水和物ならびに溶媒和物を形成することもできる。本発明の一般式(1)で表される

化合物の具体例を下記表-1に示す。  
[表1]





















表-1

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

[0016]

[表2]

表-1 (つづき)





















R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

[0017]

[表3]

[0018]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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



















(9)

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[0019]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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(10)

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[0020]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

[表6]

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(11)

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[0021]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

[表7]










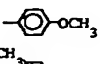










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(12)

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








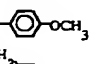










表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

[0022]

[表8]





















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

[0023]

[表9]





















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

[0024]

[図10]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3




















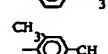
[0025]

[図11]



[0026]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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



















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[表12]

[0027]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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
















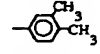

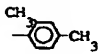
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[表13]

[0028]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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
















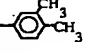

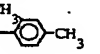
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[表14]

[0029]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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[表15]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

[0030]

[表16]

表-1 (つづき)



















R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

[0031]

[表17]

【0032】

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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



















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【表18】

【0033】

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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


















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【表19】

[0034]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2

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



















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[表20]

[0035]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2

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[表21]

50

[0036]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2

S1

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S2

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[0037]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>1</sup>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3

S3

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

















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[表23]

[0038]



















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	55
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	(29)
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	56
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	特開平10-306078

[表24]

[0039]





















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	57
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	(30)
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	58
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3	特開平10-306078

[表25]

[0040]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	H	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	H	-OCH <sub>3</sub>	H	H		1	2

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









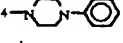


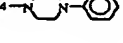


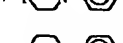











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[表26]

[0041]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N 	H	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	2
H	H	4-N  - 	H	-OCH <sub>3</sub>	H	H		1	2

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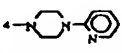

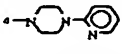

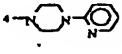

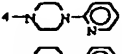

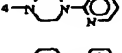

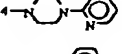

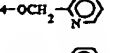

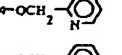

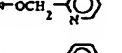

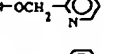

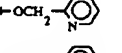

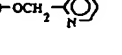

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[表27]



[0042]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_2CH_3$	$-OCH_3$	H	H		1	2
H	H		$-(CH_2)_3CH_3$	$-OCH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-OCH_3$	H	H		1	2
H	H		$-CH_2CH_3$	$-OCH_3$	H	H		1	2
H	H		$-CH_3$	$-OCH_3$	H	H		1	2
H	H		H	$-OCH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-OCH_3$	H	H		1	2
H	H		$-(CH_2)_3CH_3$	$-OCH_3$	H	H		1	2
H	H		$-(CH_2)_2CH_3$	$-OCH_3$	H	H		1	2
H	H		$-CH_2CH_3$	$-OCH_3$	H	H		1	2
H	H		$-CH_3$	$-OCH_3$	H	H		1	2
H	H		H	$-OCH_3$	H	H		1	2

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



















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[表28]

[0043]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>		$-(CH_2)_3CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-(CH_2)_2CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-CH_2CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		H	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-(CH_2)_3CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-(CH_2)_2CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-CH_2CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		$-CH_3$	$-OCH_3$	H	H		1	3
H	2-OCH <sub>3</sub>		H	$-OCH_3$	H	H		1	3

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








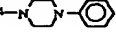


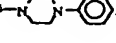


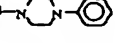


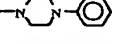


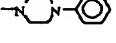


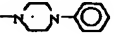


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[表29]

[0044]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	H	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	H	-OCH <sub>3</sub>	H	H		1	3

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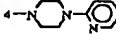


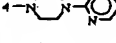


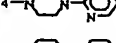


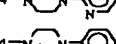


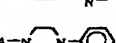


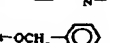



















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[表30]

[0045]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-N <sup>+</sup>  - 	H	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> - 	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> -  - 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> -  - 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> -  - 	-CH <sub>2</sub> CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> -  - 	-CH <sub>3</sub>	-OCH <sub>3</sub>	H	H		1	3
H	H	4-OCH <sub>2</sub> -  - 	H	-OCH <sub>3</sub>	H	H		1	3

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



















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40 [表31]

[0046]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2

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



















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[表32]

[0047]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sup>+</sup> 	H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3

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[表33]

[0048]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>		-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>		-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>		-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>		-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	2-OCH <sub>3</sub>		H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2
H	H		H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	2

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[表34]

[0049]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>		-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>		-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>		-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>		-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	2-OCH <sub>3</sub>		H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		-CH <sub>2</sub> CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		-CH <sub>3</sub>	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3
H	H		H	-N(CH <sub>2</sub> ) <sub>2</sub>	H	H		1	3

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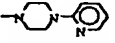

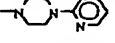

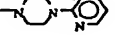

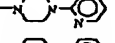



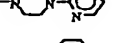













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[表35]

[0050]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H		$-(CH_2)_3CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H		$-(CH_2)_2CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H		$-CH_2CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H		$-CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H		H	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	$-(CH_2)_4CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	$-(CH_2)_3CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	$-(CH_2)_2CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	$-CH_2CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	$-CH_3$	$-N(CH_2)_3$	H	H		1	2
H	H	$-OCH_2-$ 	H	$-N(CH_2)_3$	H	H		1	2

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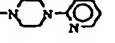

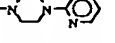

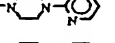

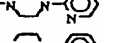

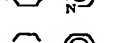















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[表36]

[0051]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H		$-(CH_2)_3CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H		$-(CH_2)_2CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H		$-CH_2CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H		$-CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H		H	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	$-(CH_2)_4CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	$-(CH_2)_3CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	$-(CH_2)_2CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	$-CH_2CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	$-CH_3$	$-N(CH_2)_3$	H	H		1	3
H	H	$-OCH_2-$ 	H	$-N(CH_2)_3$	H	H		1	3

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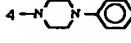

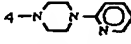

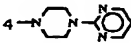

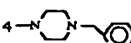

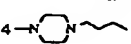

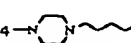

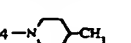

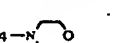



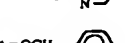

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[表37]

[0052]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

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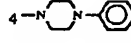

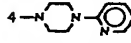

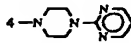

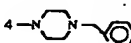

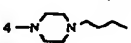

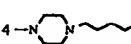

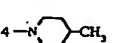

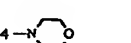





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[表38]

[0053]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

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

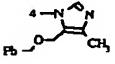











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[表39]

[0054]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

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

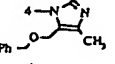











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[0040]

[0055]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

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

















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

















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

[0056]

[表42]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

[0057]

















[表43]

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[0058]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

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















[表44]

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[0059]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

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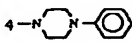

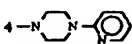

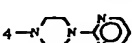

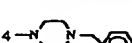

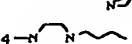

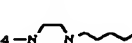



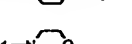

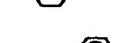

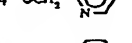

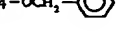

[表45]

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[0060]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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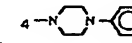

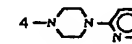

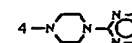



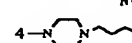

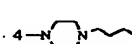

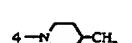







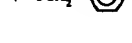

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[表46]

[0061]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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

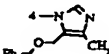











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[表47]

[0062]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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

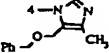











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[表48]

[0063]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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

















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[表49]

[0064]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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

















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[0065]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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















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[0066]

[0066]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	2

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















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[表52]

[0067]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3
H	H		$-(CH_2)_4CH_3$	$-CH_3$	H	H		1	3

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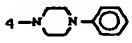

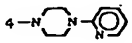

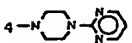

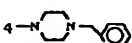

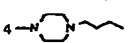

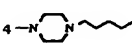

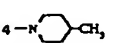



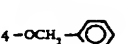

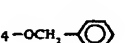

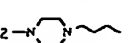

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[表53]

[0068]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2

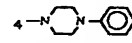

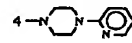

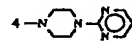

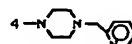

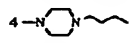

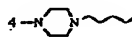

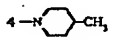



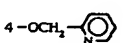

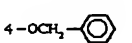

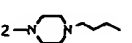

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[0069]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3

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

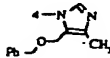











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[表55]

[0070]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2

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

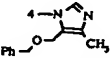











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[表56]

[0071]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3

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

















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[表57]

[0072]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2

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

















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[表58]

[0073]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3
H	H		H	-CH <sub>3</sub>	H	H		0	3

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















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[表59]



[0074]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2
H	H		H	-CH <sub>3</sub>	H	H		0	2

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















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[表60]

[0075]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	H		-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3

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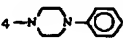

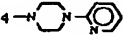

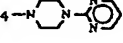

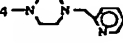













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[表61]

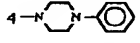

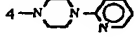

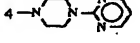

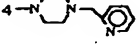





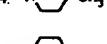





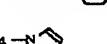

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

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[表62]

表-1 (つづき)

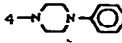

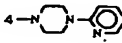

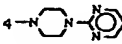

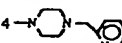









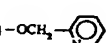

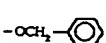



R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

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[表63]

[0078]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2
H	H		H	-CH <sub>3</sub>	H	H		1	2

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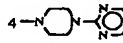

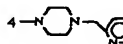









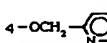

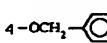



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[表64]

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表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3
H	H		H	-CH <sub>3</sub>	H	H		1	3

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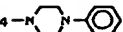

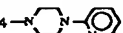

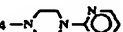

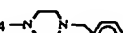















[表65]

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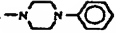

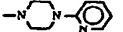

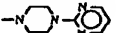

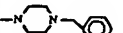















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2
H	H		H	$-N(CH_2)_2$	H	H		1	2

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[表66]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3
H	H		H	$-N(CH_2)_2$	H	H		1	3

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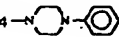

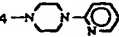

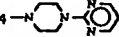

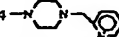















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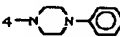

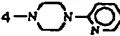

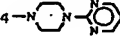

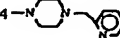















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2
H	H		H	$-N(CH_3)_2$	H	H		1	2

[0082]

[表68]

表-1 (つづき)

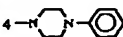

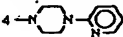

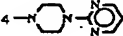

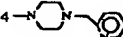

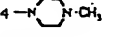



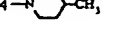

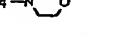

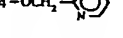

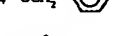



R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3
H	H		H	$-N(CH_3)_2$	H	H		1	3

[0083]

[表69]

(75)

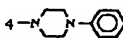

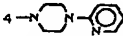

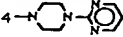

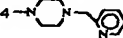

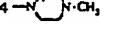

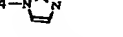

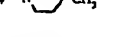



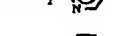





表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2

[0084]

[表70]

表-1 (つづき)

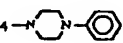

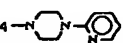

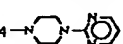

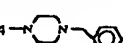















R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3

[0085]

[表71]

(76)

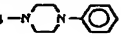

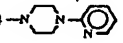

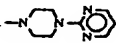

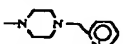















表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2
H	H		H	-OCH <sub>3</sub>	H	H		1	2

[0086]

[表72]

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3
H	H		H	-OCH <sub>3</sub>	H	H		1	3

[0087]

[表73]

(79)

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	2
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	-OH	H		1	2
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	4-OH		1	2
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	5-OH		1	2

[表74]

[0088]

(80)

表-1 (つづき)

R1	R2	R3	R4	R5	R6	R7	Y	k	l
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	H		1	3
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	-OH	H		1	3
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	4-OH		1	3
H	2-OCH <sub>3</sub>	5-N <sub>2</sub>	-(CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	-CH <sub>3</sub>	H	5-OH		1	3

[0089] 次に本発明化合物の製造法について説明する。  
<製造法A>

[0090]  
[化3]









1を加え、無水エチルで抽出し、飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥した後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-30 0:200g、溶媒液:酢酸エチル/ヘキサン(1/3 0~1/2))にて精製し、4-(2-エチルシロキシルオキシ)ペンシニル14.4gを得た。

[0120] エチルエーテル100mlに、氷冷下、水素化アルミニウムリチウム1.0g(2.6、4mmol)を加え、続いて4-(2-エチルシロキシルオキシ)ペンシニル3.48g(1.6、6mmol)のTHF(100ml)溶液を滴下し、滴下終了後反応液を加熱還流下5時間操作した。反応液を氷冷し、1N水酸化ナトリウム水溶液を加え、水酸化アルミニウムを濾別後、残渣を留去した。残渣を酢酸エチルで抽出し、飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-300:100g、溶媒液:メタノール/クロロホルム(1/10~1/5))にて精製し、4-(2-エチルシロキシルオキシ)フェニルメチルアミン2.1gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=2.61 (s, 2H), 3.84 (s, 2H), 5.14 (s, 2H), 6.93 (m, 2H), 7.25 (m, 3H), 7.51 (d, 1H), 7.69 (t, 1H), 8.57 (m, 1H)

#### [0121] 参考例3 (製造法D)

N-ペンチル-(5-イミダゾリル)-2-メトキシフェニル)メチルアミンの合成

5-フロモ-2-メトキシペンシルアミン30.0g(0.14mol)にエチルアルコール150ml、n-ペンチルアミン12.7g(0.146mol)を加え、室温で2時間操作した。反応液を5℃に冷却し、水酸化ナトリウムを加え、室温で8時間操作した。反応液に水50mlおよび6N塩酸水溶液を加え、過剰の水酸化ナトリウムを分解し、25%水酸化ナトリウム水溶液を加え、アルカリ性とし、トルエンで抽出した。抽出液を飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥した後、溶媒を留去して、残渣のN-ペンチル-(5-フロモ-2-メトキシフェニル)メチルアミン38.0gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=0.89 (t, 3H), 1.30 (m, 4H), 1.48 (t, 2H), 1.61 (bs, 1H), 2.58 (t, 2H), 3.73 (s, 2H), 3.81 (s, 3H), 6.72 (d, 1H), 7.29~7.37 (m, 2H)

[0122] N-ペンチル-(5-フロモ-2-メトキシフェニル)メチルアミン38.0g(0.133mol)にイミダゾール11.8g(0.173mol)、硫酸カリウム(0.147mol)、塩化第1剤1.4g(0.014mol)、N-メチルピロリドン270

mlを加え、178~182℃で7時間加熱操作を行った。反応液を冷却後、酢酸エチル200mlを加え、無機塩等を濾過除去し、溶媒を留去した。残渣を酢酸エチルで抽出し、10%アセトン水、続いて飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-30 0:360g、溶媒液:メタノール/酢酸エチル(1/10~1/3))にて精製し、油状のN-ペンチル-(5-イミダゾリル)-2-メトキシフェニル)メチルアミン21.3gを得た。

[0123] <sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=0.90 (t, 3H), 1.32 (m, 4H), 1.53 (m, 2H), 1.77 (bs, 1H), 2.63 (t, 2H), 3.82 (s, 2H), 3.89 (s, 3H), 6.92 (d, 1H), 7.18~7.33 (t, 4H), 7.77 (s, 1H)

同様の方法で次に示すアミン誘導体(IV)を合成した。5-イミダゾリル-2-メトキシフェニルメチルアミン

#### 20 [0124] 参考例4 (製造法E)

4-(4-(2-エチル)-1-ヒペラジル)アニリンの合成

4-フロロニトロベンゼン3.0g(21.3mmol)に1-(2-エチル)ヒペラジン3.8g(23.3mmol)、硫酸カリウム4.4g、N-メチルホルムアミン30mlを加え、加熱還流下8時間操作した。室温まで冷却し、水を加えて析出した結晶を濾過し、60℃で減圧乾燥して4-(4-(2-エチル)-1-ヒペラジル)ニトロベンゼン5.83gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=3.59 (m, 4H), 3.76 (m, 4H), 6.69 (m, 2H), 6.86 (m, 2H), 7.53 (m, 1H), 8.14 (m, 2H), 8.22 (m, 1H)

[0125] 4-(4-(2-エチル)-1-ヒペラジル)ニトロベンゼン5.83gにエチルアルコール100mlおよび10%パラジウム炭素0.5gを加え、50℃で接触水素添加を12時間行った。触媒を除去後、溶媒を留去し、4-(4-(2-エチル)-1-ヒペラジル)アニリン5.1gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=3.16 (m, 4H), 3.44 (bs, 2H), 3.68 (m, 4H), 6.61~6.71 (m, 4H), 6.85 (m, 2H), 7.49 (m, 1H), 8.21 (m, 1H)

[0126] 同様の方法で次に示すアミン誘導体(IV)を合成した。

4-(4-フェニル-1-イミダゾリル)アニリン  
4-(4-メチル-1-ヒペラジル)アニリン  
4-(5-エチル-4-フェニル-1-イミダゾリル)

フェニル  
4-(4-(2-エチル)メチル-1-ヒペラジル)アニリン

4-(4-メチル-1-イミダゾリル)アニリン  
4-(2-メチル-1-イミダゾリル)アニリン  
4-(2-エチル-1-イミダゾリル)アニリン  
4-(5-ヒドロキシル-4-メチル-1-イミダゾリル)アニリン  
4-(5-ベンジルオキシメチル-4-メチル-1-イミダゾリル)アニリン  
4-(4-(1-フロロ)-1-イミダゾリル)アニリン

4-(1-イミダゾリル)-3-メチルアニリン  
4-(4-(1-フロロ)-1-ヒペラジル)アニリン  
4-(4-(2-フロロ)-1-ヒペラジル)アニリン  
4-(1-イミダゾリル)-2-メチルアニリン  
4-(4-(1-メチル)-1-ヒペラジル)アニリン

[0127] 参考例5 (製造法F)  
2-[3-(4-(2-メトキシフェニル)-1-ヒペラジル)プロポキシ]-6-メチルフェニルの合成

2-ニトロメチル-クロロホルム10.0g(65.3mmol)のN,N-ジメチルホルムアミン(40ml)溶液に、硫酸カリウム13.5g(97.7mmol)および1-フロモ-3-クロロプロパン15.4g(97.8mmol)を加え、40℃で8時間操作した。反応液を室温まで冷却し、無機塩を濾過後、溶媒を留去した。残渣を酢酸エチルで抽出し、飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-300:150g、溶媒液:酢酸エチル/ヘキサン(1/20~1/10))にて精製し、2-(3-クロロプロポキシ)-6-メチルニトロベンゼン14.57gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=2.21 (m, 2H), 2.30 (s, 3H), 3.69 (t, 2H), 4.21 (t, 2H), 6.87 (t, 2H), 7.29 (t, 1H)

[0128] 2-(3-クロロプロポキシ)-6-メチルニトロベンゼン10.0g(43.54mmol)のN,N-ジメチルホルムアミン(60ml)溶液に、硫酸カリウム6.82g(49.35mmol)および1-(2-メトキシフェニル)ヒペラジン8.36g(43.48mmol)を加え、100℃で5時間操作した。反応液を室温まで冷却し、無機塩を濾過後、酢酸エチルで抽出し、飽和食塩水で洗浄し、無水硫酸ナトリウムで

乾燥後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-300:200g、溶媒液:メタノール/クロロホルム(1/500~1/50))にて精製し、2-[3-(4-(2-メトキシフェニル)-1-ヒペラジル)プロポキシ]-6-メチルニトロベンゼン8.4gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=1.98 (m, 2H), 2.30 (s, 3H), 2.55 (t, 2H), 2.65 (bs, 4H), 3.09 (bs, 4H), 3.86 (s, 3H), 4.13 (t, 2H), 6.82~7.00 (m, 6H), 7.27 (m, 1H)

[0129] 2-[3-(4-(2-メトキシフェニル)-1-ヒペラジル)プロポキシ]-6-メチルニトロベンゼン8.4g(21.79mmol)にイソプロピルアルコール50ml、水10.5ml、還元鉄7.5g(134mmol)、酢酸0.7ml(12.2mmol)を加え、加熱還流下1時間操作した。反応液を室温まで冷却し、硫酸カリウム6.5g水40ml溶液および酢酸エチル50mlを加えた。固形物の濾別後、濾液を酢酸エチルで抽出し、水および飽和食塩水で洗浄し、無水硫酸ナトリウムで乾燥後、溶媒を留去した。残渣をシリカゲルクロマトグラフィー(フコーガルC-300:200g、溶媒液:メタノール/クロロホルム(1/200~1/10))にて精製し、2-[3-(4-(2-メトキシフェニル)-1-ヒペラジル)プロポキシ]-6-メチルフェニル6.49gを得た。

<sup>1</sup>H NMR (CDCl<sub>3</sub>): δ=2.04 (m, 2H), 2.17 (s, 3H), 2.62 (t, 2H), 2.69 (bs, 4H), 3.11 (bs, 4H), 3.80 (bs, 2H), 3.88 (s, 3H), 4.06 (t, 2H), 6.63~6.72 (m, 3H), 6.85~7.02 (m, 4H)

[0130] 参考例5と同様の方法で次に示すアミン誘導体(IV)を合成した。

2-[3-(4-(2-フロロフェニル)-1-ヒペラジル)プロポキシ]-6-メチルフェニル  
2-[3-(4-(4-フロロフェニル)-1-ヒペラジル)プロポキシ]-6-メチルフェニル  
2-[3-(4-フェニル)-1-ヒペラジル)プロポキシ]

#### 40 [0131] 実施例1 (製造法A)

2-[3-(4-フェニル)-1-ヒペラジル)プロポキシ]-6-メチルフェニル)0.48g(1.47mmol)に塩化メチレン30mlを加え、5~6℃に冷却した。硫酸ピス(トリクロメチル)0.14g(0.47mmol)を少しずつ加え、さらにトリエチルアミン0.5g(4.94mmol)を10℃以下にて滴下した。10~20℃で1時間操作後、4-(4-メチル-1-ヒペラジル)フェニルメチルアミン0.3g(1.46mmol)を加え、室温で1時間操作した。

反応液を水 30 ml で 2 回洗浄し、無水硫酸マグネシウムで乾燥後蒸発を繰り返した。残渣をシリカゲルクロマトグラフィー（フーザル C-300 : 70 g、溶離液：メタノール/クロロホルム（1/100 ~ 1/50））にて精製し、さらに酢酸エチル/ヘキサントンで再精製して N-（4-（4-メチル-1-ピペラジニル）フェニル）メチル-N'-[2-（3-（4-フェニル-1-ピペラジニル）プロポキシ）-6-メチルフェニル] ヲラレブ 0.71 g を得た。

[0132]  $^1\text{H}$  NMR (DMSO- $d_6$ ) : 1.89 (q, 2H), 2.16 (s, 3H), 2.19 (s, 3H), 2.42 (m, 4H), 2.50 (m, 6H), 3.07 (m, 8H), 4.00 (t, 2H), 4.17 (d, 2H), 6.58 (t, 1H), 6.77 ~ 6.93 (m, 7H), 7.03 (t, 1H), 7.14 ~ 7.23 (m, 5H).

[0133] 実施例 2 (製造法 A)

2-（3-（4-フェニル-1-ピペラジニル）プロポキシ）-6-メチルフェニル 0.47 (1.44 mmol) に塩化メチレン 20 ml を加え、5 ~ 6℃ に冷却した。炭酸ジス（トリクロロメチル）0.14 g (0.47 mmol) を少しずつ加え、さらにトリエチルアミン 0.47 g (4.64 mmol) を 10℃ 以下にて滴下した。10 ~ 20℃ で 1 時間攪拌後、4-（2-ピリジルメチルオキシ）フェニルメチルアミン 0.31 g (1.45 mmol) を加え、室温で 1 時間攪拌した。反応液をクロロホルムで抽出し、水溶液を硫酸マグネシウムで乾燥し蒸発を繰り返した。残渣をシリカゲルクロマトグラフィー（フーザル C-300 : 70 g、溶離液：メタノール/クロロホルム（1/100 ~ 1/50））にて精製し、さらに酢酸エチルで再精製して N-（4-（2-ピリジルメチルオキシ）フェニル）メチル-N'-[2-（3-（4-フェニル-1-ピペラジニル）プロポキシ）-6-メチルフェニル] ヲラレブ 0.6

6 g を得た。

[0134]  $^1\text{H}$  NMR (CDCl $_3$ ) :  $\delta$  = 1.96 (m, 2H), 2.27 (s, 3H), 2.52 ~ 2.61 (m, 6H), 3.19 (m, 4H), 4.02 (t, 2H), 4.35 (d, 2H), 4.74 (t, 1H), 5.17 (s, 2H), 5.82 (s, 1H), 6.76 ~ 6.93 (m, 7H), 7.08 ~ 7.28 (m, 6H), 7.50 (d, 1H), 7.68 (m, 1H), 8.58 (m, 1H).

[0135] 実施例 3

N-（4-（2-ピリジルメチルオキシ）フェニル）メチル-N'-[2-（3-（4-フェニル-1-ピペラジニル）プロポキシ）-6-メチルフェニル] ヲラレブ 0.3 g (0.53 mmol) を テトロン 50 ml に溶解させ、4N 塩化水素酢酸エチル溶液を 0.3 ml (1.2 mmol) を加え室温で 2 時間攪拌後、析出した結晶を濾過し、テトロンで洗浄後 60℃ で減圧乾燥し、N-（4-（2-ピリジルメチルオキシ）フェニル）メチル-N'-[2-（3-（4-フェニル-1-ピペラジニル）プロポキシ）-6-メチルフェニル] ヲラレブ ジュイトロクロライド 0.34 g を得た。

[0136]  $^1\text{H}$  NMR (DMSO- $d_6$ ) :  $\delta$  = 2.17 (m, 5H), 3.12 (m, 4H), 3.42 (m, 2H), 4.02 ~ 4.22 (m, 9H), 5.34 (s, 2H), 6.79 ~ 6.85 (m, 3H), 6.96 ~ 7.07 (m, 5H), 7.22 ~ 7.28 (m, 5H), 7.65 (m, 2H), 7.81 (m, 1H), 8.22 (m, 1H), 8.85 (d, 1H), 10.84 (bs, 1H).

30 実施例 1 ~ 3 と同様の方法で、表-2 に示す実施例化合物 4 ~ 42 を合成した。

[0137]

[表 7.5]

表-2

実施例 No.	構 造	$^1\text{H}$ NMR
4		MeOH- $d_4$ $\delta$ = 2.25(m, 2H), 2.33(s, 3H), 3.24-3.35(m, 11H), 4.16(t, 2H), 6.82-6.93(m, 6H), 7.16-7.22(m, 4H), 7.44-7.47(m, 4H), 7.66-7.69(m, 2H), 8.11(s, 1H)
5		CDCl $_3$ $\delta$ = 0.93(t, 3H), 1.33(m, 2H), 1.36(m, 2H), 1.97(m, 2H), 2.33-2.37(m, 5H), 2.49-2.59(m, 10H), 4.04(t, 2H), 6.05(s, 1H), 6.05(s, 1H), 6.35(s, 1H), 6.80-6.91(m, 7H), 7.13(t, 1H), 7.26(m, 4H)
6		CDCl $_3$ +MeOH- $d_4$ $\delta$ = 1.00(t, 3H), 1.44(m, 2H), 1.84(m, 2H), 2.33(m, 5H), 2.95-3.61(m, 22H), 4.07(t, 2H), 6.72(d, 1H), 6.89(m, 4H), 7.01(m, 3H), 7.10(t, 1H), 7.30-7.35(m, 3H), 7.53(d, 2H)
7		CDCl $_3$ +DMSO- $d_6$ $\delta$ = 1.96(m, 2H), 2.25(s, 3H), 2.54-2.58(m, 6H), 3.14-3.25(m, 8H), 3.64(m, 4H), 4.03(t, 2H), 4.28(d, 2H), 6.36(t, 1H), 6.63(t, 1H), 6.69-6.78(m, 4H), 6.91(m, 4H), 7.01(m, 2H), 7.18-7.24(m, 4H), 7.50(t, 1H), 8.14(d, 1H)

[0138]

[表 7.6]

表-2 (つづき)

実施例 No.	構造	<sup>1</sup> H NMR
8		DMSO-d <sub>6</sub> +MeOH-d <sub>4</sub> $\delta$ = 2.30(m,5H), 3.08(m,2H), 3.27-3.63(m,14H), 4.06(m,6H), 4.35(s,2H), 6.74(d,1H), 6.87(d,1H) 6.95-7.16(m,9H), 7.33(m,5H), 7.95(m,1H), 8.09(d,1H)
9		DMSO-d <sub>6</sub> $\delta$ = 2.22(s,3H), 2.33(s,3H), 3.00-3.35(m,4H), 3.35-3.80(m,8H), 4.06(s,3H), 6.80-7.00(m,5H), 7.23(t,2H), 7.62(d,2H), 7.72(d,2H), 7.87(s,1H), 8.36(s,1H), 9.50(s,1H), 10.49(s,1H), 10.69(s,1H)
10		DMSO-d <sub>6</sub> $\delta$ = 2.09(s,3H), 2.22(s,1H), 3.00-3.85(m,12H), 4.07(s,1H), 6.86(t,3H), 6.97(d,2H), 7.10(t,1H), 2.84(t,4H), 7.24(t,2H) 7.48(d,2H), 7.70-7.90(m,4H), 8.40(s,1H), 10.58(s,1H), 10.74(s,1H)
11		DMSO-d <sub>6</sub> $\delta$ = 1.18(t,3H), 2.23(s,5H), 2.83(q,2H), 3.00-3.80(m,10H), 4.07(t,2H), 6.86(t,3H), 6.97(d,2H), 7.10(t,1H), 7.25(t,3H), 7.47(d,2H), 7.70-7.80(m,4H), 8.40(s,1H), 10.60(s,1H), 10.73(s,1H)

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表-2 (つづき)

実施例 No.	構造	<sup>1</sup> H NMR
12		DMSO-d <sub>6</sub> $\delta$ = 0.79(t,3H), 1.59(m,2H), 2.22(s,5H), 2.82(t,2H) 3.05-3.30(m,4H), 3.50-3.85(m,6H), 4.07(t,2H), 6.86(t,3H) 6.97(d,2H), 7.10(t,1H), 7.20-7.28(m,2H), 7.47(d,2H) 7.70-7.80(m,4H), 8.43(s,1H), 10.68(s,1H), 10.82(s,1H)
13		DMSO-d <sub>6</sub> $\delta$ = 2.11(s,3H), 2.22(s,5H), 3.00-3.80(m,10H), 4.07(t,2H) 6.86(t,3H), 6.97(d,2H), 7.10(t,1H), 7.24(t,2H), 7.36(d,1H), 7.55(s,1H), 7.58(s,1H), 7.88(t,1H), 7.92(t,1H), 8.40(s,1H), 9.36(s,1H), 10.43(s,1H), 10.66(s,1H)
14		DMSO-d <sub>6</sub> $\delta$ = 0.92(t,3H), 1.65-1.85(m,2H), 2.21(s,5H), 3.00-3.20(m,10H), 3.40-3.80(m,10H), 4.05(t,2H), 6.80-7.00(m,7H), 7.07(t,1H), 7.25(t,2H), 7.40(d,2H), 8.05(s,1H), 9.63(s,1H), 10.59(s,1H), 10.78(s,1H)
15		DMSO-d <sub>6</sub> $\delta$ = 1.31(d,6H), 2.21(s,5H), 3.00-3.20(m,8H), 3.40-3.80(m,11H), 4.06(t,2H), 6.80-7.00(m,7H), 7.07(t,1H), 7.26(t,2H), 7.41(d,2H), 8.03(s,1H), 9.61(s,1H), 10.57(s,1H), 10.67(s,1H)

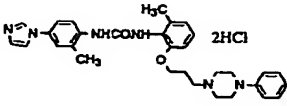
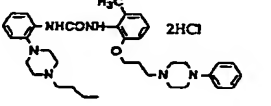
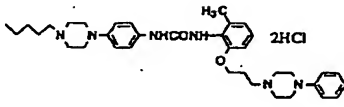
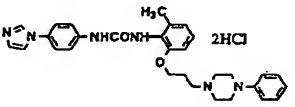
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表-2 (つづき)

実施例 No.	構造	<sup>1</sup> H NMR
16		DMSO-d <sub>6</sub> $\delta$ = 2.23(s,5H), 2.45(s,3H), 3.00-3.25(m,4H), 3.40-3.80(m,6H), 4.07(t,2H), 6.80-7.00(m,5H), 7.10(t,1H), 7.21(t,2H), 7.54(dd,1H), 7.61(d,1H), 7.87(s,1H), 8.10-8.20(m,2H), 9.02(s,1H), 9.18(s,1H), 9.64(s,1H), 10.84(s,1H)
17		DMSO-d <sub>6</sub> $\delta$ = 0.89(t,3H), 1.20-1.40(m,2H), 1.60-1.80(m,2H), 2.21(s,5H), 3.00-3.80(m,20H), 4.06(t,3H), 6.80-7.00(m,6H), 7.00-7.20(m,3H), 7.25(t,2H), 8.19(d,2H), 8.80(s,1H), 9.36(s,1H), 10.56(s,1H), 10.65(s,1H)
18		DMSO-d <sub>6</sub> $\delta$ = 0.90(t,3H), 1.20-1.40(m,4H), 1.60-1.80(m,2H), 2.21(s,5H), 3.00-3.80(m,20H), 4.05(t,3H), 6.80-7.00(m,7H), 7.07(t,1H), 7.26(t,2H), 7.39(d,2H), 8.00(s,1H), 9.55(s,1H), 10.48(s,1H), 10.56(s,1H)
19		DMSO-d <sub>6</sub> $\delta$ = 2.22(s,5H), 3.00-3.25(m,4H), 3.40-3.80(m,6H), 4.08(t,2H), 6.80-7.00(m,5H), 7.09(t,1H), 7.23(t,2H), 7.70(q,4H), 7.88(t,1H), 8.19(t,1H), 8.41(s,1H), 9.66(s,1H), 10.59(s,1H), 10.84(s,1H)

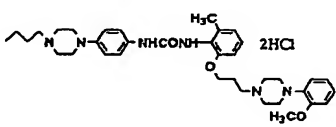
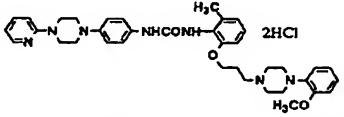
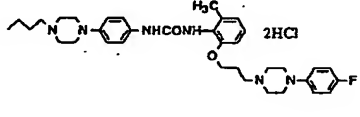
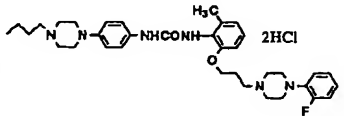
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表-2 (つづき)

実施例 No.	構造	<sup>1</sup> H NMR
20		DMSO-d <sub>6</sub> $\delta$ = 0.92(t,3H), 1.20-1.40(m,2H), 1.60-1.80(m,2H), 2.21(s,5H), 3.00-3.70(m,20H), 3.80(s,3H), 4.05(t,3H), 6.80-7.10(m,9H), 7.40(d,2H), 8.06(s,1H), 9.62(s,1H), 10.53(s,1H), 10.83(s,1H)
21		DMSO-d <sub>6</sub> $\delta$ = 2.21(s,5H), 2.90-3.90(m,14H), 3.79(s,3H), 3.90(s,4H), 4.05(t,2H), 6.80-7.20(m,10H), 7.33(d,1H), 7.47(d,2H), 7.94(t,1H), 8.07(s,1H), 8.09(s,1H), 9.73(s,1H), 10.50(s,1H)
22		DMSO-d <sub>6</sub> $\delta$ = 0.92(t,3H), 1.20-1.40(m,2H), 1.60-1.80(m,2H), 2.21(s,5H), 3.00-3.70(m,20H), 4.05(t,3H), 6.80-7.15(m,9H), 7.40(d,2H), 8.04(s,1H), 9.61(s,1H), 10.54(s,1H), 10.69(s,1H)
23		DMSO-d <sub>6</sub> $\delta$ = 0.92(t,3H), 1.20-1.40(m,2H), 1.60-1.80(m,2H), 2.21(s,5H), 3.00-3.70(m,20H), 4.06(t,3H), 6.80-6.95(m,4H), 6.95-7.25(m,5H), 7.39(d,2H), 8.03(s,1H), 9.59(s,1H), 10.61(s,1H), 10.70(s,1H)

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表-2 (つづき)

実施例 No.	構造	<sup>1</sup> H NMR
24		CDCl <sub>3</sub> $\delta$ = 1.23(m,3H), 1.65-1.81(m,6H), 1.91(m,2H), 2.23(s,3H), 2.47-2.59(m,6H), 3.19(m,6H), 3.29(m,4H), 3.68(m,4H), 3.99(2H), 4.55(s,2H), 6.07(s,1H), 6.62-6.84(m,10H), 7.26(m,4H), 7.49(m,1H), 8.20(d,1H)
25		DMSO-d <sub>6</sub> $\delta$ = 1.15(m,3H), 1.67(m,4H), 2.07(s,3H), 2.14(m,4H), 3.05-3.70(m,13H), 3.89(m,4H), 4.07(1,2H), 4.48(s,2H), 6.80-7.45(m,15H), 8.04(m,2H), 11.35(bs,1H)
26		CDCl <sub>3</sub> $\delta$ = 1.98(m,2H), 2.34(s,3H), 2.54(m,6H), 3.14(m,4H), 3.22(m,4H), 3.68(m,4H), 4.05(1,2H), 6.04(s,1H), 6.37(s,1H), 6.61(m,2H), 6.79-6.93(m,7H), 7.14(1,1H), 7.21-7.29(m,4H), 7.49(1,1H), 8.22(d,1H)
27		DMSO-d <sub>6</sub> $\delta$ = 2.21(m,5H), 3.07(m,4H), 3.27(m,4H), 3.47-3.74(m,7H), 3.86(m,4H), 4.06(1,2H), 6.82-6.96(m,6H), 7.08(m,3H), 7.25(m,3H), 7.45(d,2H), 7.92-8.09(m,3H), 9.62(bs,1H), 10.44(bs,1H)

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実施例 No.	構造	<sup>1</sup> H NMR
28		CDCl <sub>3</sub> $\delta$ = 1.87(m,2H), 2.27(s,3H), 2.48(1,2H), 2.56(m,4H), 3.17(1,4H), 3.78(s,3H), 3.98(1,2H), 4.43(d,2H), 5.07(1,1H), 5.85(s,1H), 6.82-6.92(m,6H), 7.17-7.30(m,7H), 7.74(d,1H)
29		DMSO-d <sub>6</sub> $\delta$ = 2.14(m,5H), 3.43(m,11H), 3.89(s,3H), 4.02(1,2H), 4.33(d,2H), 6.78-6.86(m,3H), 6.96-7.01(m,3H), 7.21-7.28(m,4H), 7.66(m,1H), 7.85(d,2H), 7.96(s,1H), 8.21(s,1H), 9.59(s,1H), 10.72(bs,1H)
30		DMSO-d <sub>6</sub> $\delta$ = 2.23(s,5H), 3.00-3.80(m,10H), 4.06(1,2H), 6.80-7.00(m,5H), 7.05-7.30(m,3H), 7.74(s,4H), 7.94(d,2H), 8.35(d,1H), 9.57(s,1H), 10.44(s,1H), 10.62(s,1H)
31		DMSO-d <sub>6</sub> $\delta$ = 0.97(s,3H), 1.77(broad s,5H), 2.21(s,5H), 2.95-3.20(m,4H), 2.23(s,3H), 3.30-3.80(m,10H), 4.05(1,2H), 6.80-7.30(m,8H), 7.50-7.80(m,4H), 8.24(s,1H), 7.84(s,1H), 10.20(s,1H), 10.50(s,1H)

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実施例 No.	構 造	<sup>1</sup> H NMR
40		CDCl <sub>3</sub> δ = 0.91(t,3H), 1.35(m,4H), 1.73(m,2H), 1.85(m,2H), 2.25(s,3H), 2.44(s,2H), 2.59(bs,2H), 3.07(bs,4H), 3.40(t,2H), 3.86(s,3H), 3.90(s,3H), 3.98(t,2H), 4.64(s,2H), 6.19(s,1H), 6.73(d,1H), 6.80-6.87(m,2H), 6.93-7.02(m,5H), 7.19(d,1H), 7.27(m,1H), 7.34(d,1H), 7.77(s,1H)
41		CDCl <sub>3</sub> δ = 0.89(t,3H), 1.35(m,4H), 1.74(m,2H), 1.84(m,2H), 2.25(s,3H), 2.44(t,2H), 2.55(bs,4H), 3.08(bs,4H), 3.40(t,2H), 3.90(s,3H), 3.97(t,2H), 4.64(s,2H), 6.19(s,1H), 6.72(d,1H), 6.81(d,1H), 6.91-7.05(m,6H), 7.19(d,2H), 7.29(m,1H), 7.35(d,1H), 7.77(s,1H)
42		CDCl <sub>3</sub> δ = 0.91(t,3H), 1.35(m,4H), 1.73(m,2H), 1.83(m,2H), 2.25(s,3H), 2.42(t,2H), 2.53(bs,4H), 3.09(bs,4H), 3.40(t,2H), 3.90(s,3H), 3.97(t,2H), 4.64(s,2H), 6.18(s,1H), 6.73(d,1H), 6.84-7.02(m,7H), 7.19(d,2H), 7.26(m,1H), 7.34(d,1H), 7.77(s,1H)

【0147】試験例1：ヒト肝臓細胞由来のHepG2細胞のACAT阻害作用を以下の方法により測定した。ACATの活性の測定はヒト肝臓細胞由来のHepG2細胞を用いた。同細胞の培養液中へ放射標識されたオレイン酸-γ-<sup>3</sup>H-コリスチロールを添加し、細胞内に放射標識オレイン酸から形成された放射標識コリスチロールオレイン酸を形成することにより求めた。ACATを阻害する本発明の化合物の活性は、放射標識を加えない対照群の放射標識コリスチロール生成量を基として、各濃度(μM)の放射標識を加えることにより放射標識が何パーセント低下したかを求

め、その結果からIC<sub>50</sub>値(酵素活性を50%阻害するのに必要な放射標識化合物の濃度)を求めた。結果を下記表3に示す。  
【0148】試験例2：泡沫化マクロファージのACAT阻害作用を以下の方法により測定した。d<sub>4</sub>Y細胞マクロファージより採取したマクロファージにアセチル化低比重リポタンバグを加え、一夜培養後、泡沫化マクロファージとして、同細胞は細胞内に大量のコリスチロール(エステル)を蓄積しており、動脈硬化のモデルとされている。この細胞のACAT活性は培養液中へ放射標識され

たオレイン酸-γ-<sup>3</sup>H-コリスチロールを添加し、細胞内に放射標識オレイン酸から形成された放射標識コリスチロールオレイン酸の量を測定することにより求めた。ACATを阻害する本発明の化合物の活性は、放射標識を加えない対照群の放射標識コリスチロール生成量を基として、各濃度(μM)の放射標識を加えることにより

って酵素活性が何パーセント低下したかを求め、その結果からIC<sub>50</sub>値(酵素活性を50%阻害するのに必要な放射標識化合物の濃度)を求めた。その結果を下記表3に示す。  
【0149】  
[表85]

表3

化合物 (実施例No.)	ACAT阻害活性(IC <sub>50</sub> μM)	
	Hep G2	マクロファージ
2	0.08	
3	0.04	
4	0.07	0.47
5	0.43	
6	0.89	
7	0.14	
8	0.17	
9	0.66	
21	0.27	0.62
24	0.27	0.37
25	0.35	
26	0.03	0.14
27	0.05	
29	0.50	
30	0.75	
31	0.16	
32	0.16	
33	0.57	
35	0.19	
37	0.36	
38	0.27	0.51
40	0.59	0.12
41	0.25	0.11
42	0.16	0.21

【0150】

[発明の効果] 本発明の化合物は酵素ACATに対して

強力な阻害作用を有しており、高脂血症、アテローム性動脈硬化症の予防、治療として有用である。

マクロファージの標識

(51) Int. Cl. <sup>4</sup>	識別記号	F I	E
A 61 K 31/505	ADN	A 61 K 31/505	ADN
C 07 D 213/30	AED	C 07 D 213/30	AED
213/71		213/71	
213/74		213/74	
231/12		231/12	
233/61		233/61	
233/84		233/84	
239/42		239/42	
249/08		249/08	
		5 3 5	5 3 5
			Z

277/36	277/36	
295/12	295/12	A
		Z
307/64	307/64	
333/34	333/34	
401/12	401/12	
		2 1 1
		2 3 1
		2 3 3
		2 3 9
403/12	403/12	2 3 1
		2 3 3

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